



**City of Bellevue
Development Services Department
Land Use Staff Report**

Proposal Name: Parkwood Lane Lot 3

Proposal Address: 3655 163rd Avenue SE

Proposal Description: Land Use review of a proposal to reduce the 75-foot toe-of-slope structure setback from a steep slope critical area to construct a new single-family residence and associated improvements on a vacant property.

File Number: 12-104650-LO

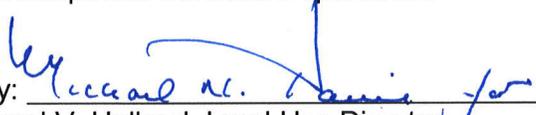
Applicant: Troy Schmeil, TD Home Partners

Decisions Included Critical Areas Land Use Permit
(Process II. 20.30P)

Planner: Reilly Pittman, Land Use Planner

**State Environmental Policy Act
Threshold Determination:** **Exempt**

Director's Decision: **Approval with Conditions**
Michael A. Brennan, Director
Development Services Department

By: 
Carol V. Helland, Land Use Director

Application Date: February 1, 2012
Notice of Application Date: February 16, 2012
Decision Publication Date: March 22, 2012
Project Appeal Deadline: April 5, 2012

For information on how to appeal a proposal, visit Development Services Center at City Hall or call (425) 452-6800. Appeal of the Critical Areas Land Use Permit decision must be received in the City's Clerk's Office by 5 PM on the date noted for appeal of the decision.

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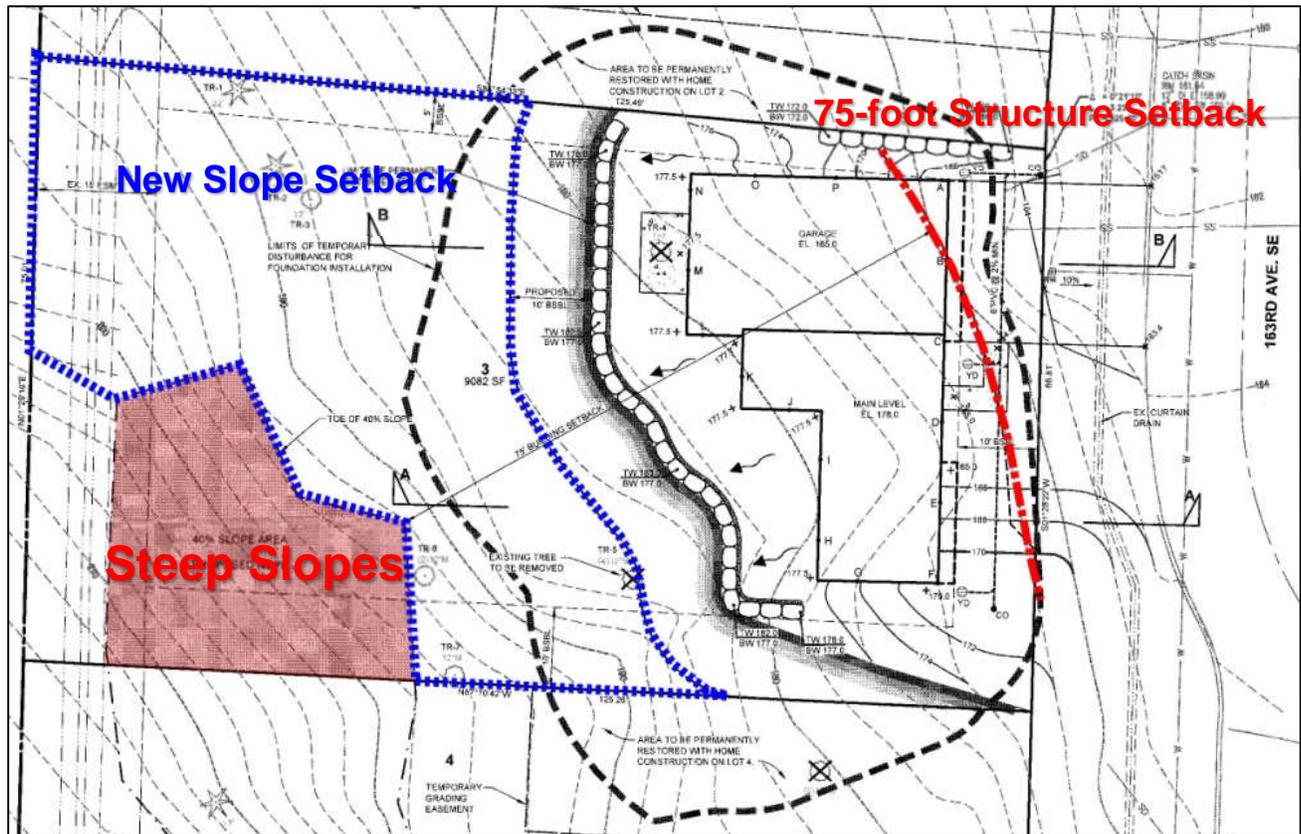
Attachments

1. Site Plan and Mitigation Planting Plan – Enclosed
2. Geotech Response Letter prepared South Fork Geosciences – Enclosed
3. Maintenance and Monitoring Plan – Enclosed
4. Geotech Report, Survey, Sections, Forms, Application Materials – In File

I. Proposal Description

The applicant proposes to reduce the required 75-foot toe-of-slope structure setback in order to construct a new single-family house on a vacant lot. Per the geotechnical report, a slope setback reduction to 15 feet is possible. However based on review of the project, this reduction would be more than the minimum necessary to build the house. The slope setback will only be reduced 10 feet from the proposed rockery wall. No actual improvements are proposed within 30 feet of the toe-of-slope and the house is located over 40 feet from the toe-of-slope. The proposed setback reduction will result in 2,801 square feet of permanently impacted setback area and 1,870 square feet of temporary disturbance resulting from excavation to build the home foundation. 2,802 square feet of mitigation planting is proposed to restore the temporary disturbance and provide mitigation for the setback impacts. A Critical Area Land Use Permit is required to approve modification of the toe-of-slope setback. See Figure 1 below for a site plan.

Figure 1



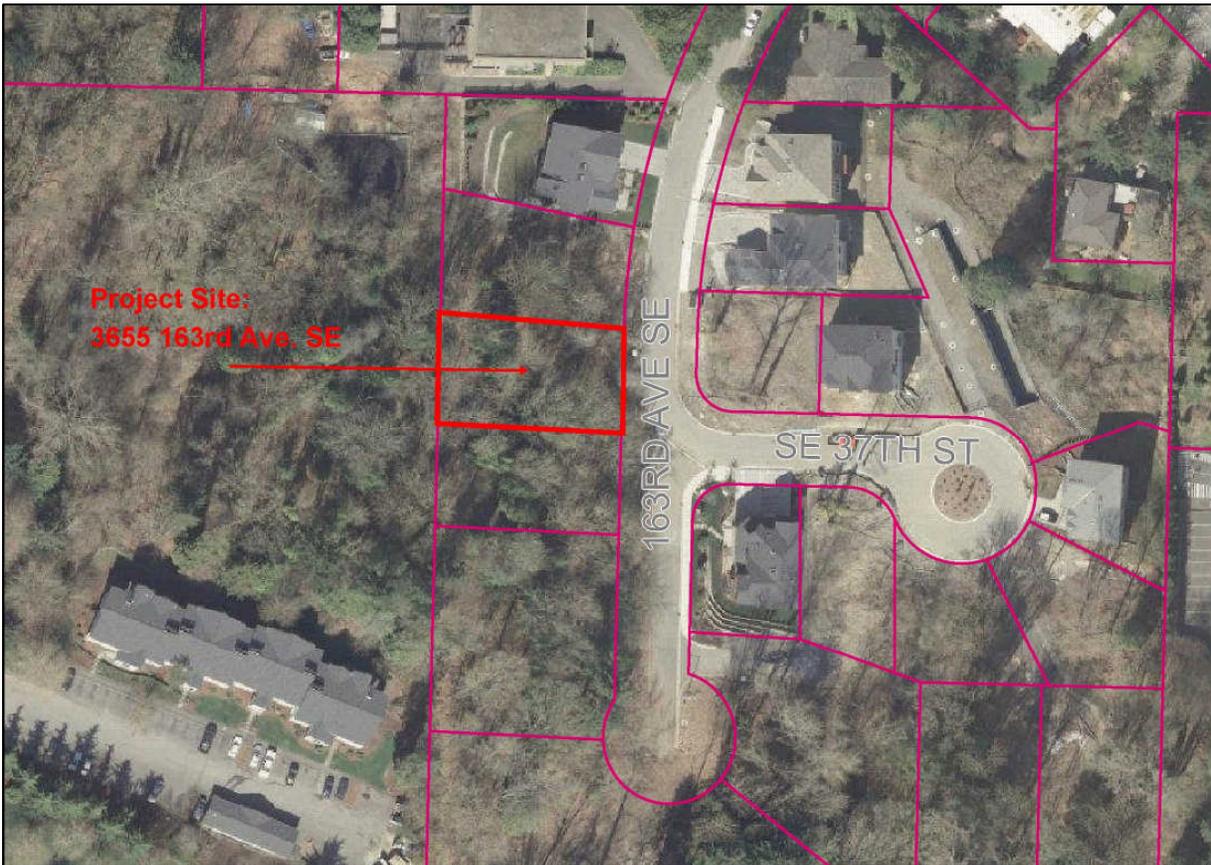
II. Site Description, Zoning, Land Use and Critical Areas

A. Site Description

The project site is located at 3655 163rd Avenue SE in the Eastgate subarea of the City and is lot 3 of the Parkwood Lane subdivision which is only partially built out. This property and the properties to the north and south are located on the western side of 163rd Avenue SE and are undeveloped with the exception of lot 1, the northern most property on that side of

the street. Other single-family zoned and developed properties are located to the east on the other side of the street. The property to the west is zoned multi-family and is developed with a multi-family development. A large portion of the property to the west is undeveloped, heavily vegetated, and has steep topography change. The steep slope critical areas in the vicinity are located in the south west portion of the property and increase in elevation generally to the west. The steep slopes shown in figure 1 above extend onto adjacent properties. In addition to steep slopes, the Seattle Fault Zone is in the vicinity of this project site. See figure 2 for existing site condition.

Figure 2



B. Zoning

The property is zoned R-5, single-family residential which allows the proposed single-family development.

C. Land Use Context

The property has a Comprehensive plan Land Use Designation of SF-H (Single Family High Density). Construction of a home is consistent with this residential land use.

D. Critical Areas On-Site and Regulations

i. Geologic Hazard Areas

Geologic hazards pose a threat to the health and safety of citizens when commercial,

residential, or industrial development is inappropriately sited in areas of significant hazard. Some geologic hazards can be reduced or mitigated by engineering, design, or modified construction practices. When technology cannot reduce risks to acceptable levels, building in geologically hazardous areas is best avoided (WAC 365-190).

Steep slopes may serve several other functions and possess other values for the City and its residents. Several of Bellevue's remaining large blocks of forest are located in steep slope areas, providing habitat for a variety of wildlife species and important linkages between habitat areas in the City. These steep slope areas also act as conduits for groundwater, which drains from hillsides to provide a water source for the City's wetlands and stream systems. Vegetated steep slopes also provide a visual amenity in the City, providing a "green" backdrop for urbanized areas enhancing property values and buffering urban development.

ii. Critical Areas Overlay District/Critical Area Land Use Permit

A Critical Area Land Use Permit (CALUP) is required as the applicant is requesting to reduce the 75-foot toe-of-slope setback to 25 feet. In addition to meeting general zoning requirements, the applicant is required to prepare a critical areas report and geotechnical report to show how the project is meeting performance standards for construction in geologically hazardous areas and decision criteria in LUC 20.25H and LUC 20.30P.

III. Consistency with Land Use Code Requirements:

A. Zoning District Dimensional Requirements:

The R-5 zoning dimensional requirements found in LUC 20.20.010 apply to the proposed home construction. The plans submitted generally demonstrate conformance with zoning dimensional standards, however conformance will be verified during building permit review. Based on the plans the proposed structure will meet requirements for lot coverage and impervious surface which are important considerations in assessment of critical areas impacts. The proposed rockery and any other walls are limited to 30 inches or less if they are located in a setback required for the R-5 zone. The proposed plans show that either wall are not located in a setback or are 30 inches or less if in a setback. Conformance will be ensured during building permit review.

A front setback of 10 feet is proposed which is allowed under LUC 20.25H.040 in order to move the house away from critical areas. The proposed house is using this provision to locate the house as close to the road as allowed. This will result in less impervious surface created for vehicle access, less permanent intrusion into the structure setback from the steep slope, and allows the creation of a house located as far from the steep slope critical area as possible. **See Conditions of Approval in Section X of this report.**

B. Critical Areas Requirements LUC 20.25H:

The City of Bellevue Land Use Code Critical Areas Overlay District (LUC 20.25H) establishes performance standards and procedures that apply to development on any site which contains in whole or in part any portion designated as critical area, critical area buffer

or structure setback from a critical area or buffer. The project area is within the 75-foot toe-of-slope setback from a steep slope critical area and is subject to the performance standards found in LUC 20.25H.125 below.

i. Consistency with LUC 20.25H.125

Development within a landslide hazard or steep slope critical area or the critical area buffers of such hazards shall incorporate the following additional performance standards in design of the development, as applicable. The requirement for long-term slope stability shall exclude designs that require regular and periodic maintenance to maintain their level of function.

1. Structures and improvements shall minimize alterations to the natural contour of the slope, and foundations shall be tiered where possible to conform to existing topography;

The house construction requires temporary alteration of existing grade in order to safely construct the home. Temporary excavation is noted on the plans and does not disturb much of the 75-foot setback area or the steep slope critical area. No work is proposed within steep slope critical areas and the house and proposed rockery mostly avoid permanent modification of existing contour outside of the house footprint. Excavated areas are proposed to be restored and replanted.

2. Structures and improvements shall be located to preserve the most critical portion of the site and its natural landforms and vegetation;

The proposed development on the property is located outside of any steep slope critical areas and retains vegetation in the steep slope and setback. The proposed house has a reduced front setback of 10 feet under LUC 20.25H.040 in order to locate the house closer to the street and reduce the amount of slope setback reduction necessary.

3. The proposed development shall not result in greater risk or a need for increased buffers on neighboring properties;

The project geotechnical engineer found that the “proposed development does not increase risk or create need for increased buffers on neighboring properties” (Geotech Response, Pg. 4).

4. The use of retaining walls that allow the maintenance of existing natural slope area is preferred over graded artificial slopes where graded slopes would result in increased disturbance as compared to use of retaining wall;

The geotech found that the proposed rockery meets this requirement to maintain existing natural slope area. The rockery is being built within area that is required for temporary excavation and that will be restored.

5. Development shall be designed to minimize impervious surfaces within the critical area and critical area buffer;

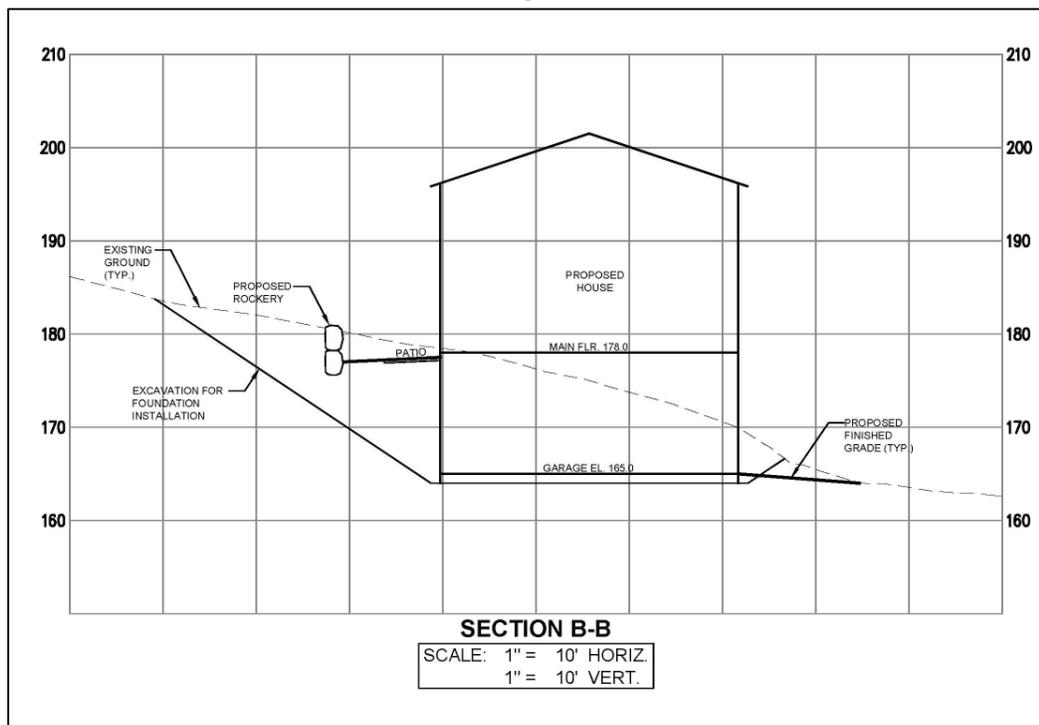
No construction is located in a buffer or the actual steep slope critical area. The

proposed development is located as far from the steep slope as possible while maintaining conformance with setbacks and other zoning dimensional standards. The reduced front setback also reduces the length of the proposed driveway which reduces the proposed impervious surface coverage.

- 6. Where change in grade outside the building footprint is necessary, the site retention system should be stepped and regrading should be designed to minimize topographic modification. On slopes in excess of 40 percent, grading for yard area may be disallowed where inconsistent with this criteria;**

Temporary excavation will occur outside the building footprint. Site retention will be achieved through the use of one rockery wall to provide a level grade for access around the house. No construction is occurring in steep slope critical areas. The proposed house foundation is incorporated into the topography after temporary excavated areas are restored and will be part of the site retention. See figure 3 below.

Figure 3



- 7. Building foundation walls shall be utilized as retaining walls rather than rockeries or retaining structures built separately and away from the building wherever feasible. Freestanding retaining devices are only permitted when they cannot be designed as structural elements of the building foundation;**

The foundation provides some support to the sloping site however the house is not located in areas of significant topography. A rockery wall is proposed within 10 feet of the rear of the house and is in order to allow full access around the

house.

- 8. On slopes in excess of 40 percent, use of pole-type construction which conforms to the existing topography is required where feasible. If pole-type construction is not technically feasible, the structure must be tiered to conform to the existing topography and to minimize topographic modification;**

No construction is proposed in slopes of 40 percent.

- 9. On slopes in excess of 40 percent, piled deck support structures are required where technically feasible for parking or garages over fill-based construction types; and**

No construction is proposed in slopes of 40 percent.

- 10. Areas of new permanent disturbance and all areas of temporary disturbance shall be mitigated and/or restored pursuant to a mitigation and restoration plan meeting the requirements of LUC 20.25H.210.**

The project will provide 2,802 square feet of mitigation planting for the permanent impacts and temporary disturbance. Trees proposed for removal are primarily located in the area to be improved or temporarily excavated for construction; 2 trees are proposed for removal. The project proposes a mitigation plan consistent with the City's planting templates for steep slope areas which consists of trees and shrubs to be planted in the area between the steep slope and house, above the retaining wall. The planting is required to be maintained and monitored for a period of at least five years with per the monitoring and maintenance plans found in attachment 3. The following goals will be achieved:

- Provide mitigation through the restoration of the steep slope BSBL area temporarily impacted for development. Plant the area with native tree, shrub, and groundcover species.
- Provide mitigation through enhancement planting in northwest section of the undisturbed steep slope BSBL. Interplant existing native plants with native tree, shrub, and groundcover species.
- Remove invasive & non-native species in select areas where new native tree, shrub, and groundcover plants are installed

The following performance standards will be used to evaluate the mitigation:

- Restore 1,870 square feet of steep slope BSBL area with native plantings in areas that are temporarily impacted by development.
- Provide enhancement of a native growth within an area of 932 square feet.
- Provide 80 percent survival of all installed trees and shrubs by the end of the 5 years of monitoring in the enhancement and restoration areas.
- Maintain less than 10 percent non-native, invasive plant cover in planted areas by the end of 5 years of monitoring.

In addition to those above, the following standards are required in order to measure success over the course of the 5-year monitoring and shall be evaluated in the appropriate year:

- 100% survival of all plants installed by the end of year 1.
- 90% survival of all plants of installed plants and 35% native vegetation coverage by the end of year 3.
- 50% and 70% native vegetation coverage by years 4 and 5 respectively.

A maintenance surety will be required based on a submitted cost estimate. The surety will be released after the five-year monitoring, assuming restoration has been successful. **See Conditions of Approval in Section X of this report.**

IV. Public Notice and Comment

Application Date:	February 1, 2012
Public Notice (500 feet):	February 8, 2012
Minimum Comment Period:	February 22, 2011

Once the project application was determined complete the Notice of Application for this project was published the City of Bellevue weekly permit bulletin on June 2, 2011. It was mailed to property owners within 500 feet of the project site. One neighbor submitted comments regarding construction in a steep slope critical area and past landslides on the site and in the City of Bellevue. Based on staff review, the project is not constructed or modifying a steep slope critical area. The steep slopes on the site are avoided entirely. Landslides which have occurred recently, most notably on W Lake Sammamish Parkway, occur for a variety of reasons, but usually due to disturbance, vegetation clearing, erosion, etc. within steep slopes. The project is within a setback from the toe of the steep slope and is not within or causing any disturbance to a steep slope critical area. The project has been reviewed by a geotechnical engineer who gave recommendations and found the project could be constructed without increasing risk.

V. Summary of Technical Reviews

A. Clearing and Grading

The Clearing and Grading Division of the Development Services Department has reviewed the proposed site development for compliance with Clearing and Grading codes and standards. The Clearing and Grading staff approved the application with conditions regarding the excavation proposed off the project site.

VI. State Environmental Policy Act (SEPA)

Construction of a new single-family residence and the associated improvements are exempt from SEPA in WAC 197-11-800 and no work is proposed within a critical area.

VII. Changes to Proposal Due to Staff Review

Staff required changes to use the house foundation as part of the retention of the site and to avoid the use of a rockery wall. Staff also required the slope setback reduction to be changes in order to be the minimum necessary.

VIII. Decision Criteria

A. 20.25H.255 Critical Areas Report – Decision Criteria – General

The Director may approve, or approve with modifications, the proposed modification where the applicant demonstrates:

- 1. The modifications and performance standards included in the proposal lead to levels of protection of critical area functions and values at least as protective as application of the regulations and standards of this code;**

The performance standards related to steep slopes are being met by this proposal as no critical area or critical area buffer is proposed to be modified. The proposed mitigation planting will install more vegetation than exists currently in the setback from the slope. As reviewed in Section III above, the project complies with all required performance standards.

- 2. Adequate resources to ensure completion of any required mitigation and monitoring efforts;**

The mitigation planting proposed is required to be maintained and monitored for a period of 5 years. Performance sureties for installation and maintenance will be required. **See Conditions of Approval in Section X of this report.**

- 3. The modifications and performance standards included in the proposal are not detrimental to the functions and values of critical area and critical area buffers off-site;**

The proposed project complies with the required performance standards. No work is proposed in the steep slope critical area or buffer. The structure setback reduction was reviewed by the project geotech who found that the proposed reduction would have “not increase risk” on neighboring properties (Geotech Response, Pg. 4).

- 4. The resulting development is compatible with other uses and development in the same land use district.**

The construction of a single-family residence is an allowed use that is compatible with this land use district and surrounding properties.

B. 20.30P.140 Critical Area Land Use Permit Decision Criteria – Decision Criteria

The Director may approve, or approve with modifications an application for a Critical Area Land Use Permit if:

- 1. The proposal obtains all other permits required by the Land Use Code;**

The applicant must obtain a building permit and utility permits. **See Conditions of**

Approval in Section X of this report.

- 2. The proposal utilizes to the maximum extent possible the best available construction, design and development techniques which result in the least impact on the critical area and critical area buffer;**

The proposed home is not located in a steep slope critical area and modifies the slope setback to the minimum necessary by reducing the front setback to 10 feet. The mitigation planting proposed will improve vegetation coverage between the proposed house and the steep slope and restore the area disturbed by temporary excavation.

- 3. The proposal incorporates the performance standards of Part 20.25H to the maximum extent applicable, and ;**

As discussed in Section III of this report, the applicable performance standards of LUC Section 20.25H are being met.

- 4. The proposal will be served by adequate public facilities including street, fire protection, and utilities; and;**

The proposed activity will be served by adequate public facilities.

- 5. The proposal includes a mitigation or restoration plan consistent with the requirements of LUC Section 20.25H.210; and**

The mitigation planting is proposed to be consistent with the City's planting templates for steep slopes. The planting and conditions in this staff report make the project consistent with LUC 20.25H.210.

- 6. The proposal complies with other applicable requirements of this code.**

As discussed in this report, the proposal complies with all other applicable requirements of the Land Use Code.

IX. Conclusion and Decision

After conducting the various administrative reviews associated with this proposal, including Land Use Code consistency, City Code and Standard compliance reviews, the Director of the Development Services Department does hereby **approve with conditions** the reduction of the 75-foot toe-of-slope structure setback to allow construction of a new single-family residence and associated improvements. **Approval of this Critical Areas Land Use Permit does not constitute a permit for construction. A building permit, clear and grade permit, and/or utility permit is required and all plans are subject to review for compliance with applicable City of Bellevue codes and standards.**

Note- Expiration of Approval: In accordance with LUC 20.30P.150 a Critical Areas Land Use Permit automatically expires and is void if the applicant fails to file for a building permit or other necessary development permits within one year of the effective date of the approval.

X. Conditions of Approval

The applicant shall comply with all applicable Bellevue City Codes and Ordinances including but not limited to:

<u>Applicable Ordinances</u>	<u>Contact Person</u>
Clearing and Grading Code- BCC 23.76	Savina Uzunow, 425-452-7860
Land Use Code- BCC Title 20	Reilly Pittman, 425-452-4350
Noise Control- BCC 9.18	Reilly Pittman, 425-452-2973

The following conditions are imposed under the Bellevue City Code or SEPA authority referenced:

- 1. Building Permit:** Approval of this Critical Areas Land Use Permit does not constitute an approval of a development permit. Application for a building permit or other required permits must be submitted and approved. Plans submitted as part of either permit application shall be consistent with the activity permitted under this approval.

Authority: Land Use Code 20.30P.140
Reviewer: Reilly Pittman, Development Services Department

- 2. Front Setback:** The front setback is reduced to 10 feet as allowed under LUC 20.25H.040 in order to reduce the modification of the slope setback needed.

Authority: Land Use Code 20.20.040
Reviewer: Reilly Pittman, Development Services Department

- 3. Monitoring Performance Standards:** The maintenance and monitoring plan as attachment 3 is required for the mitigation planting associated with this approval. Monitoring is required for 5 years per the schedule specified. Monitoring reports should be mailed to:

Environmental Planning Manager
Development Services Department
City of Bellevue
PO Box 90012
Bellevue, WA 98009-9012

Goal:

- Provide mitigation through the restoration of the steep slope BSBL area temporarily impacted for development. Plant the area with native tree, shrub, and groundcover species.
- Provide mitigation through enhancement planting in northwest section of the undisturbed steep slope BSBL. Interplant existing native plants with native tree, shrub, and groundcover species.

- Remove invasive & non-native species in select areas where new native tree, shrub, and groundcover plants are installed

Performance Standards

- Restore 1,870 square feet of steep slope BSBL area with native plantings in areas that are temporarily impacted by development.
- Provide enhancement of a native growth within an area of 932 square feet.
- Provide 80 percent survival of all installed trees and shrubs by the end of the 5 years of monitoring in the enhancement and restoration areas.
- Maintain less than 10 percent non-native, invasive plant cover in planted areas by the end of 5 years of monitoring.

In addition to those above, the following standards are required in order to measure success over the course of the 5-year monitoring and shall be evaluated in the appropriate year:

- 100% survival of all plants installed by the end of year 1.
- 90% survival of all plants of installed plants and 35% native vegetation coverage by the end of year 3.
- 50% and 70% native vegetation coverage by years 4 and 5 respectively.

A final maintenance and monitoring plan shall be submitted with the building permit application that includes all of the performance standards above as conditioned.

Authority: Land Use Code 20.30P.140; 20.25H.220
Reviewer: Reilly Pittman, Development Services Department

- 4. Planting Cost Estimate:** A cost estimate for the proposed plant installation and 5 years must be submitted prior to building permit issuance.

Authority: Land Use Code 20.30P.140
Reviewer: Reilly Pittman, Development Services Department

- 5. Maintenance Surety:** A maintenance surety based on the cost estimate will be required prior to building permit issuance. The maintenance surety is required to be held until completion of the 5-year monitoring. Release of this surety is contingent upon successful monitoring established by the plan above. Land Use inspection of the planting after 5-years is required to release the surety.

Authority: Land Use Code 20.30P.140
Reviewer: Reilly Pittman, Development Services Department

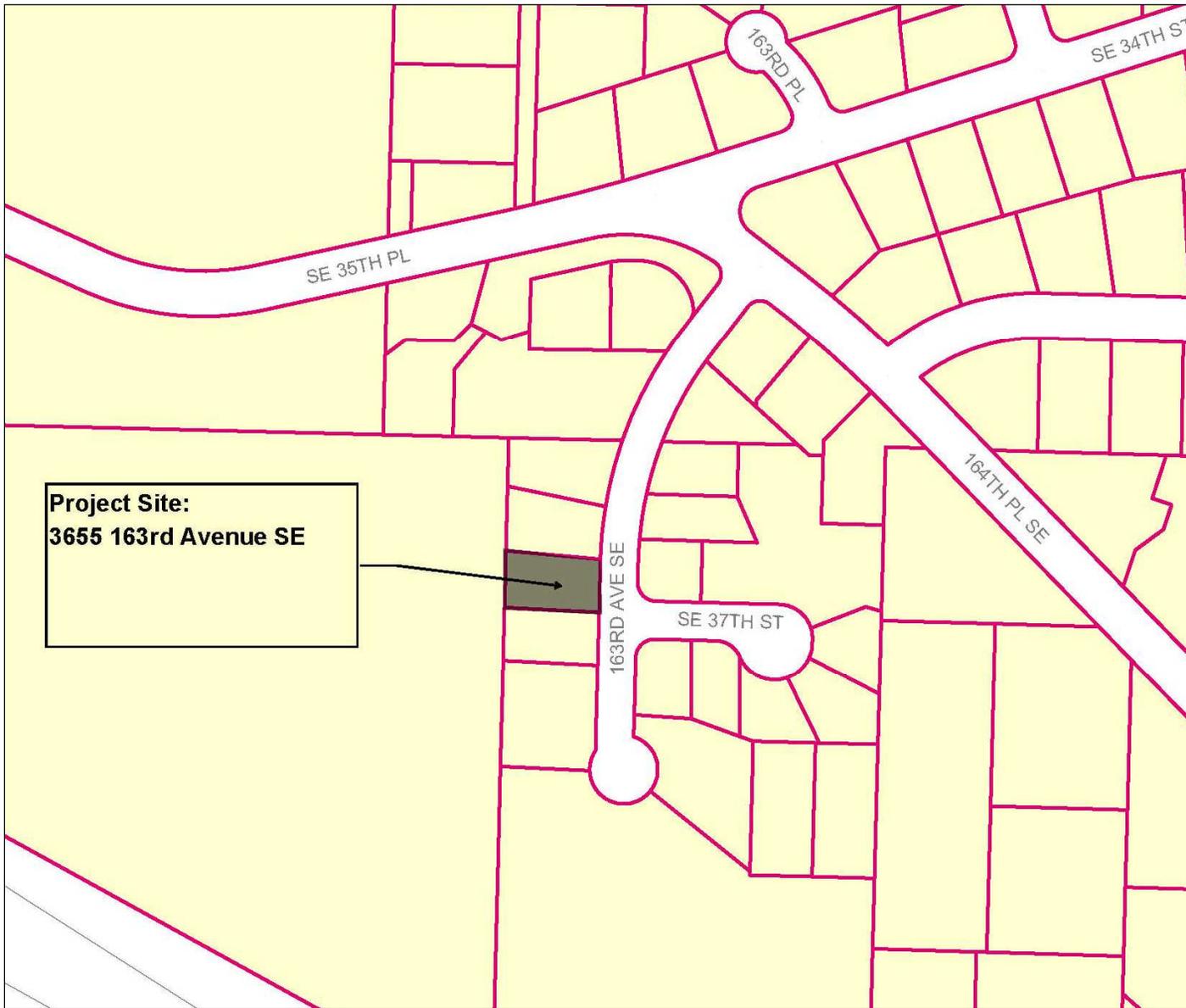
- 6. Land Use Inspection:** Following installation of planting the applicant shall contact Land Use staff to inspect the planting area and release the installation surety. At the end of 5 years inspection by Land Use staff is required to release the maintenance surety. Staff will need to find that the plants are in a healthy and growing condition and the mitigation plan is successful per the established performance standards in the monitoring plan.

Authority: Land Use Code 20.30P.140
Reviewer: Reilly Pittman, Development Services Department

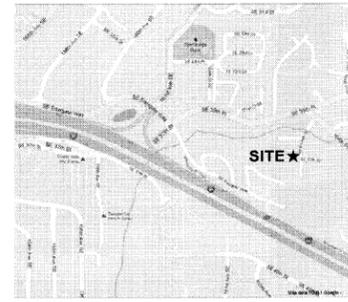
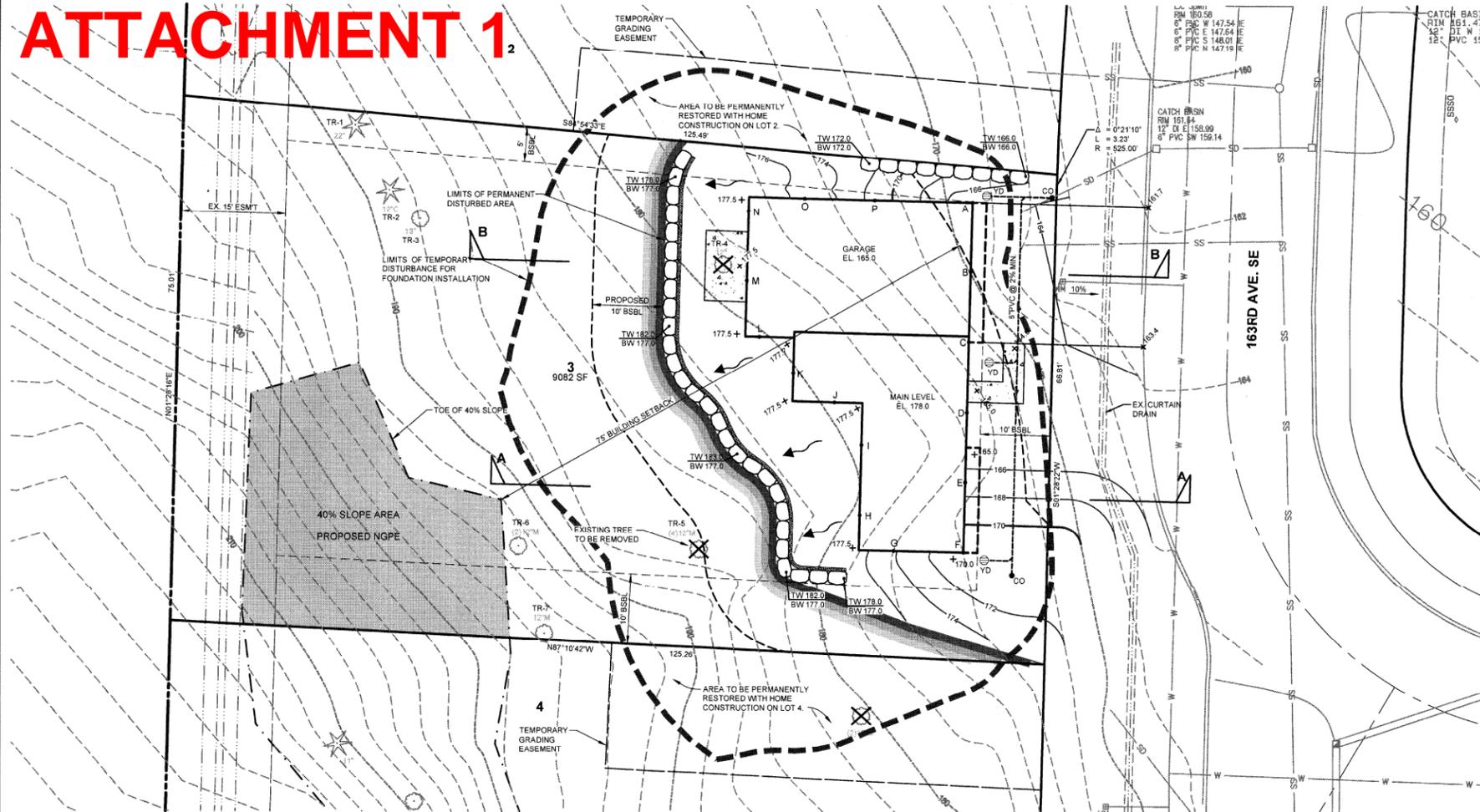
7. **Noise Control:** Noise related to construction is exempt from the provisions of BCC 9.18 between the hours of 7 am to 6 pm Monday through Friday and 9 am to 6 pm on Saturdays, except for Federal holidays and as further defined by the Bellevue City Code. Noise emanating from construction is prohibited on Sundays or legal holidays unless expanded hours of operation are specifically authorized in advance. Requests for construction hour extension must be done in advance with submittal of a construction noise expanded exempt hours permit.

Authority: Bellevue City Code 9.18
Reviewer: Reilly Pittman, Development Services Department

Parkwood Lane Lot 3
File Number: 12-104650-LO



ATTACHMENT 1



VICINITY MAP

NOT TO SCALE

PROJECT INFO:

OWNER: TD HOME PARTNERS, LLC
16838 SE 43RD STREET
ISSAQUAH, WA 98034
PHONE: 425-818-8829
CONTACT: TROY SCHMEIL

ENGINEER: LAND DEVELOPMENT ADVISORS, LLC
12865 SE 47TH PLACE
BELLEVUE, WA 98006
PHONE: 425-466-5203
CONTACT: JON W. NELSON, PE

GEOTECHNICAL ENGINEER: SOUTH FORK GEOSCIENCES
P.O. BOX 1275
NORTH BEND, WA 98045
PHONE: 425-831-2023
CONTACT: ANDY GLANDON

SURVEYOR: CENTRE POINT CONSULTANTS, INC.
206 RAILROAD AVENUE N.
KENT, WA 98032
PHONE: 206-813-1901
CONTACT: NORM LARSON, PLS

SITE ADDRESS: 3665 - 163RD AVENUE SE
BELLEVUE, WA

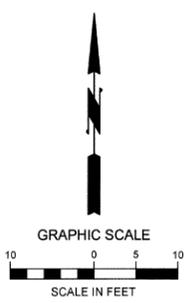
ZONING: R-5

LEGAL DESCRIPTION:

LOT 3 OF CITY OF BELLEVUE BOUNDARY LINE ADJUSTMENT NUMBER LW-01-106944 (PARKWOOD LANE), RECORDED UNDER RECORDING NUMBER 20021105900008, IN KING COUNTY, WASHINGTON.

REFERENCE:

GEOTECHNICAL REPORTS PREPARED BY SOUTH FORK GEOSCIENCES, DATED 9-22-11 & 01-20-12.



LOT COVERAGE:

LOT AREA:	9082 SF
LOT AREA MINUS 40% SLOPE AREA:	8006 SF
HOUSE/GARAGE AREA:	1250 SF
TOTAL AREA:	(1250 / 8006) 15.61%

IMPERVIOUS AREA:

LOT AREA:	9082 SF
BUILDING ROOF OVERHANG:	1426 SF
DRIVEWAY/PATIO/WALK:	301 SF
TOTAL AREA:	1727 SF
	19.02%

RETAINED TREE CALCULATIONS

NUMBER	CALIPER (INCHES)	CREDIT
1	22	22
2	12	12
3	13	13
4	12	0
5	12(4)	0
6	12(2)	24
7	12	12
TOTAL	143	83
PERCENT TREES TO REMAIN		58%

NOTE: MINIMUM 30% OF TOTAL TREES TO REMAIN

MAXIMUM BUILDING HEIGHT CALCULATION

POINT	ELEVATION	POINT	ELEVATION
A	169.0	I	179.5
B	170.0	J	179.5
C	173.0	K	180.1
D	175.5	L	180.1
E	175.0	M	179.0
F	174.0	N	177.0
G	176.0	O	175.0
H	179.0	P	173.0
		TOTAL	2814.7

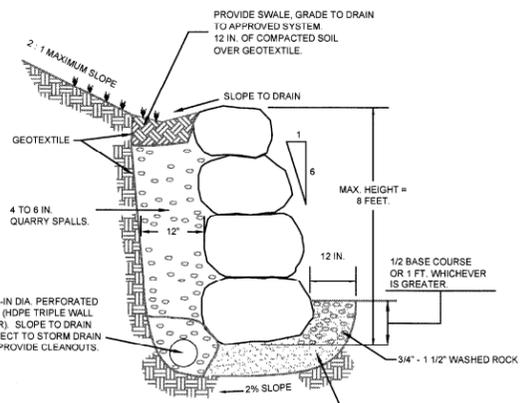
AVG. EX. GRADE = TOTAL ELEVATION / TOTAL POINTS
2814.7 / 16 = 175.92
+ 35.00
MAX. ALLOWABLE RIDGE ELEV. 210.92
PROPOSED RIDGE ELEV. 201.50

AREA OF DISTURBANCE:

AREA PERMANENTLY DISTURBED:	3250 SF
AREA TEMPORARILY DISTURBED:	1881 SF

LEGEND:

- EXISTING**
- 2' CONTOURS
 - 10' CONTOURS
 - W- WATER LINE
 - SS- SEWER LINE
 - SD- STORM LINE
 - CURTAIN DRAIN
 - SEWER MANHOLE
 - WATER METER
 - DECIDUOUS TREE
 - CONIFEROUS TREES
- PROPOSED**
- 2' CONTOURS
 - 10' CONTOURS
 - BOUNDARY LINE
 - LOT LINE
 - STORM SERVICE LINE
 - YARD DRAIN
 - CLEANOUT
 - ROCKERY
 - FLOW PATH



NOTES:

- CALL FOR CLEAR AND GRADE INSPECTION PRIOR TO BASE COURSE BEING PLACED. VERIFICATION OF ROCKERY HEIGHT, FOUNDATION MATERIAL, AND ROCK SIZE BY CITY CLEARING AND GRADING INSPECTOR IS REQUIRED.
- QUARRY SPALLS AND CRUSHED ROCK SHALL BE PLACED DIRECTLY FROM TRUCK OR OTHER SUITABLE CONTAINER IN ORDER TO MAINTAIN CLEAN BACKFILL.
- ALL ROCKERIES OVER 30-IN IN HEIGHT ARE CONSIDERED A STRUCTURE PER THE LAND USE CODE AND MUST BE LOCATED OUTSIDE OF ALL STRUCTURE SETBACK LINES.
- OPENINGS SHALL BE CHINKED WITH QUARRY SPALLS.
- ROCKERIES CONSTRUCTED IN THE RIGHT-OF-WAY ARE SUBJECT TO TRANSPORTATION DEPARTMENT DEVELOPMENT STANDARDS.

ROCKERY DETAIL

NOT TO SCALE

SITE PLAN B

TD HOME PARTNERS, LLC
PARKWOOD LANE
SITE ADDRESS: 3665 - 163RD AVENUE SE

WASHINGTON
CITY OF BELLEVUE

DA Planning, Engineering, Project Management
Land Development Advisors, LLC
12865 SE 47th Place
Bellevue, WA 98006
425-466-5203



03/14/12
Received
MAR 15 2012
Permit Processing

STAMP NOT VALID UNLESS SIGNED AND DATED
JOB NUMBER **CALX-004**
SHEET NUMBER **1 OF 1**

ATTACHMENT 2

SOUTH FORK GEOSCIENCES
PO Box 1275
NORTH BEND, WA 98045
(425) 831-2023
AGLANDON@COMCAST.NET



January 20, 2012
Project #12002

TD Home Partners, LLC
16838 SE 43rd Street
Issaquah, WA 98027

Attention: Mr. Troy Schmeil

Subject: City of Bellevue Pre-Application Letter and
Land Use Code Geotechnical Response
Parkwood Lane Lot #3
3665 163rd Avenue SE
Bellevue, Washington

Mr. Schmeil:

The purpose of this letter is to provide our geotechnical response to the items set forth in the City of Bellevue pre-application letter dated December 2, 2011 and to provide geotechnical comments on Bellevue Municipal Code (BMC) 20.25H.125, Performance standards – landslide hazards and steep slopes. We reviewed a site plan prepared by Land Development Advisors, LLC dated January 20, 2012 in order to establish a context of the proposed development. We will begin this letter by responding to the pre-application letter items and then address the applicable portions of BMC 20.25H.125. Excerpts of these documents will be included in the text of the letter and both of documents are included in their entirety as attachments to this letter.

Pre-Application Letter Items

1. Scope

Separate Critical Areas Land Use Permits (CALUP) will be required for each lot for proposals to modify a steep slope, buffer or setback. Based on the information you provided, lot 2 will not need a CALUP and the remainder will. Development on lots 3 and 6 will require a reduction of the 75-foot toe-of-slope setback. Development on lots 4 and 5 may be limited to the reasonable use provisions of the Land Use Code (see 20.25H.190). If reasonable use is not required, development on lots 4 and 5 may require reduction of the 75-foot toe-of-slope setback and the 50-foot top-of-slope setback in addition to modification of the actual steep slope area.

Response:

The proposed development requires a reduction of the 75-foot toe-of-slope building setback. Page 5 of our geotechnical report dated September 22, 2011 sets forth a modified critical area buffer and building setback for the steep slope on this property. In our opinion a 5-foot critical area buffer and a 10-foot building setback (15-foot total building setback) should be applied to the steep slope area and will adequately mitigate the steep slope related hazards for the property. With application of the modified buffer/setback, a reasonable use exception will not be required for the proposed Lot #3 development.

2. Critical Areas Report

See attached letter for reference

Response:

The previously prepared geotechnical report dated September 22, 2011 fulfills the requirements of a critical areas report. This report provides our assessment of the slope over several lots, yet all the information and recommendations are applicable to Lot #3 specifically. It is our opinion that our geotechnical report fulfills the requirements of the critical areas report. Our descriptions of the site geology and hydrogeology (Pages 2-4) and the *Geologic Hazards* section (Pages 4-7) provide the background and recommendations for the steep slope areas.

3. Landslide Hazards

See attached letter for reference to Steep Slopes and Landslide Hazards (LUC 20.25H.120). The requests of the geotechnical evaluation are shown below:

The geotechnical evaluation will need to:

- Determine, based on the above criteria, if any landslide hazards or buffer/setbacks exist which impact the property. If landslide hazards exist, they need to be depicted with either the 50-foot top-of-slope buffer or 75-foot toe-of-slope setback which is required.
- Consider the Seattle fault location in the vicinity and provide any project recommendations

Response:

Our previous geotechnical report designated the slopes on site as steep slopes. The basis for and implications of this designation is described in detail in the *Geologic Hazards* section (Pages 4-6). With respect to the location of the Seattle Fault, refer to the *Seismic Hazards, Ground Rupture* section of our previous report (Pages 6 and 7). In summary, it is our opinion that the potential for ground rupture for the site is low to moderate and the building foundation should consist of connected, continuous spread footings in a grid pattern, without isolated pier or pad footings. Though this does not guarantee that the proposed structure will not be damaged in a ground rupture event, a foundation designed in this manner will mitigate the structure for life safety in the event of differential settlements/displacements caused by ground rupture.

4. Fill and Excavation

In addition to performance standards found in the Land Use Code for development in steep slopes, the code also limits fill and excavation outside of the house footprint

generally. Excavation is limited to 10 feet and fill is limited to four feet; more than four feet of fill requires engineering and may be approved up to eight feet if exceptional circumstances apply. The geotech should address any areas of fill and excavation which exceed these limits and the plans should identify these areas.

Response:

The proposed construction requires an excavation in excess of 10 feet and will require backfill of a portion of the excavation. However, proposed structures will be founded on native soils at the base of the excavation and the fill will be required to backfill the excavation. Recommendations for temporary cut slopes and structural fill placement are in our original geotechnical report in the *Geotechnical Engineering Recommendations – Site Preparation and Site Grading* section (Pages 7 and 8). Based on our knowledge of the proposed construction, it is our opinion that following the recommendations set forth in our previous report will adequately mitigate fill and excavation of this magnitude. Areas of proposed excavations over 10 feet are shown on the site plan prepared by Land Development Advisors, LLC.

Land Use Code - Performance Standards

The following section of this letter will provide our comments/responses to the individual sections (A through J) of LUC 20.25H.125 Performance standards – Landslide hazards and steep slopes. Each item will be shown before our response and the entire code section is included as an attachment to this letter.

- A. Structures and improvements shall minimize alterations to the natural contour of the slope, and foundations shall be tiered where possible to conform to existing topography;

Response:

Based on our review of the proposed site plan it is our opinion that the proposed structures and improvements have been designed in accordance with this section. Though some temporary excavation will be required for the garage construction, the finish grades around the structure will be congruent with the existing grades.

- B. Structures and improvements shall be located to preserve the most critical portion of the site and its natural landforms and vegetation;

Response:

Based on our review of the proposed site plan there are no grading or construction activities planned in the steep slope area or the modified buffer/setback. As such, the most critical portion of the site will be preserved.

- C. The proposed development shall not result in greater risk or a need for increased buffers on neighboring properties;

Response:

From a geotechnical perspective the proposed development does not increase risk or create need for increased buffers on neighboring properties.

- D. The use of retaining walls that allow the maintenance of existing natural slope area is preferred over graded artificial slopes where graded slopes would result in increased disturbance as compared to use of retaining wall;

Response:

Based on our review of the proposed site plan the use of a landscape rockery as shown in the proposed site plan is in agreement with this section.

- E. Development shall be designed to minimize impervious surfaces within the critical area and critical area buffer;

Response:

There is no construction activity or alteration planned within the steep slope area or the modified steep slope area buffer.

- F. Where change in grade outside the building footprint is necessary, the site retention system should be stepped and regrading should be designed to minimize topographic modification. On slopes in excess of 40 percent, grading for yard area may be disallowed where inconsistent with this criteria;

Response:

Based on our review of the proposed site plan the proposed finish grades are in agreement with this section. There will be no grading in the steep slope area or modified steep slope area buffer.

- G. Building foundation walls shall be utilized as retaining walls rather than rockeries or retaining structures built separately and away from the building wherever feasible. Freestanding retaining devices are only permitted when they cannot be designed as structural elements of the building foundation;

Response:

Based on our review of the proposed site plan the foundation/retaining walls associated with the proposed structure are in agreement with this section.

- H. On slopes in excess of 40 percent, use of pole-type construction which conforms to the existing topography is required where feasible. If pole-type construction is not technically feasible, the structure must be tiered to conform to the existing topography and to minimize topographic modification;

Response:

Based on our review of the proposed site plan there will not be any construction in the steep slope area (slope in excess of 40 percent).

- I. On slopes in excess of 40 percent, piled deck support structures are required where technically feasible for parking or garages over fill-based construction types; and

Response:

This section applies to proposed construction from the top of the slope and down on to a steep slope, rather than building below the toe of the slope, so this section is not applicable to the proposed development. As previously stated, there will not be any construction in the steep slope area (slope in excess of 40 percent).

- J. Areas of new permanent disturbance and all areas of temporary disturbance shall be mitigated and/or restored pursuant to a mitigation and restoration plan meeting the requirements of LUC 20.25H.210.

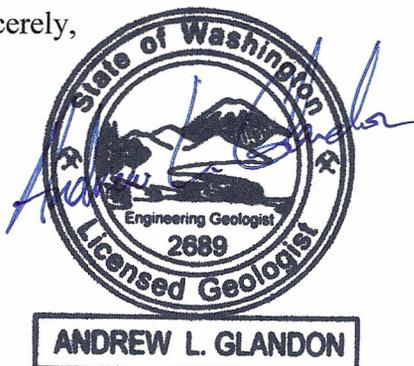
Response:

Based on our review of the proposed site plan there grading and construction will not occur within the steep slope area, so mitigation of the steep slope area will not be required. Any areas of disturbance due to grading and construction of the proposed structure will be mitigated by implementing temporary erosion control measures during construction and permanent landscaping upon completion. Our recommendations for temporary erosion control measures are set forth in our previous geotechnical report in the section *Geologic Hazards – Erosion Concerns* (Page 4). It is our opinion that the use of these temporary erosion control measures is in accordance with LUC 20.25H.210.

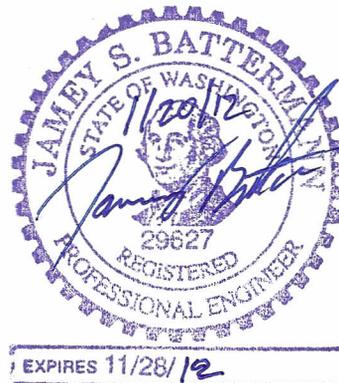
Conclusion

We have enjoyed working with you on this project and we are confident that this report will aid in the design and permitting of your project. If there are any questions, please contact us at (425) 831-2023.

Sincerely,



Andrew L. Glandon, LEG, CPESC
Geologist / Owner
South Fork Geosciences



Jamey S. Battermann, LG, PE
Geotechnical Engineer

Attachments: “RE: 11-125679-DC, Development of Parkwood Lane Lots 2 through 6” Letter, Reilly Pittman, Associate Planner, City of Bellevue, December 2, 2011

LUC 20.25H.125 Performance standards – Landslide hazards and steep slopes

References:

“RE: 11-125679-DC, Development of Parkwood Lane Lots 2 through 6” Letter, Reilly Pittman, Associate Planner, City of Bellevue, December 2, 2011

“Subsurface Exploration, Geologic Hazards, and Geotechnical Engineering Report, Parkwood Lane Lots 2-5, Parcel #3211900080,-090,-100, & -110, 3xxx 163rd Avenue SE, Bellevue, Washington”, South Fork Geosciences, September 22, 2011

“Site Plan B, TD Home Partners, LLC, Parkwood Lane, 3665 163rd Avenue SE, Sheet 1 of 1”, Land Development Advisors, LLC, January 20, 2012

City of Bellevue Online Maps, <http://www.nwmaps.net/mapsearch.htm>

City of Bellevue Municipal Code, <http://www.codepublishing.com/wa/bellevue/>



December 2, 2011

Troy Schmeil
TD Home Partners, LLC
16838 SE 43rd Street
Issaquah, WA 98027

RE: 11-125679-DC, Development of Parkwood Lane Lots 2 through 6.

Dear Troy,

Thank you for meeting with me. The following information below describes the likely process and requirements needed for construction of single-family homes on Lots 2-6 of Parkwood Lane.

1. Scope

Separate Critical Areas Land Use Permits (CALUP) will be required for each lot for proposals to modify a steep slope, buffer, or setback. Based on the information you provided, lot 2 will not need a CALUP and the remainder will. Development on lots 3 and 6 will require the reduction of the 75-foot toe-of-slope setback. Development on lots 4 and 5 may be limited to the reasonable use provisions of the Land Use Code (see 20.25H.190). If reasonable use is not required, development on lots 4 and 5 may require reduction of the 75-foot toe-of-slope setback and the 50-foot top-of-slope buffer in addition to modification of the actual steep slope critical area.

2. Critical Areas Reports

Modification of steep slopes and reduction of buffers and setbacks requires the preparation of a critical areas report by a qualified professional for each occurrence. Since the major issue is potential slope stability in a variety of conditions, including saturation and ground rupture, a geotechnical expert must be part of the team preparing these reports. Habitat issues may also figure on some of the lots. Any critical areas report must be written to specifically address each lot and proposed development plans. One combined report can be submitted, provided each lot is clearly evaluated under each Land Use Code section. By design, this will prove repetitive, but the actual character of development on each lot must be addressed separately. Please see the attached Land Use Code sections for reference. The site-wide geotech report that was done previously that provides in-depth engineering analysis can be submitted for reference. .

3. Landslide Hazards

The City of Bellevue Land Use Code (LUC) regulates areas of geological hazard which come in two varieties that could impact this project: Steep Slopes and Landslide Hazards. Given evidence in the field of past slope movement, the potential for landslide hazard needs to be evaluated for all lots proposed for development in addition to those slopes over 40 percent and their buffers and setbacks. LUC 20.25H.120 classifies landslide hazards as the following:

Landslide Hazards. Areas of slopes of 15 percent or more with more than 10 feet of rise, which also display any of the following characteristics:

- a. Areas of historic failures, including those areas designated as quaternary slumps, earthflows, mudflows, or landslides.*
- b. Areas that have shown movement during the Holocene Epoch (past 13,500 years) or that are underlain by landslide deposits.*

- c. Slopes that are parallel or subparallel to planes of weakness in subsurface materials.*
- d. Slopes exhibiting geomorphological features indicative of past failures, such as hummocky ground and back-rotated benches on slopes.*
- e. Areas with seeps indicating a shallow ground water table on or adjacent to the slope face.*
- f. Areas of potential instability because of rapid stream incision, stream bank erosion, and undercutting by wave action.*

The geotechnical evaluation will need to:

- Determine, based on the above criteria, if any landslide hazards or buffer/setbacks exist which impact the property. If landslide hazards exist, they need to be depicted on a plan along with either the 50-foot top-of-slope buffer or 75-foot toe-of-slope setback which is required.
- Consider the Seattle fault location in the vicinity and provide any project recommendations

4. Reasonable Use

The reasonable use requirements found in LUC 20.25H.200 do not apply if a lot has at least 2,160 square feet of consolidated area available for development outside of steep slopes, landslide hazards areas, or buffers. A plan which shows each lot, the area encumbered, and the area that is buildable is required and can either be in the geotech report or submitted as a separate plan.

5. Fill and Excavation

In addition to performance standards found in the Land Use Code for development in steep slopes, the code also limits fill and excavation outside of the house footprint generally. Excavation is limited to 10 feet and fill is limited to four feet; more than four feet of fill requires engineering and may be approved up to 8 feet if exceptional circumstances apply. The geotech should address any areas of fill and excavation which exceed these limits and the plans should identify these areas.

6. Habitat Analysis per LUC 20.25H.145

Per LUC 20.25H.145 any modification of a critical area slope, hazard area, or buffer requires an analysis of potential impacts to habitat for species of local importance. No habitat analysis will be required for lots 2, 3, and 6 as they will not impact any steep slope or buffer and presumably there are no impacts to landslide hazard areas. If the homes located on these lots are positioned as discussed at the meeting to take advantage of the reduced front yard setback, there should be no removal of significant vegetation needed. Analysis of habitat impacts will be needed for development to occur on lots 4 and 5, as development of these will impact steep slopes and buffers. If development on lots 4 and 5 results in minimal vegetation removal I would anticipate minimal habitat impact but a qualified professional will need to confirm that.

7. Habitat Assessment per LUC 20.25H.165

Habitat for species of local importance is also a critical area in its own right and a more detailed habitat assessment of impacts to habitat can be required for projects removing significant vegetation where significant structural habitat is available or where significant stands of native trees are adjacent and/or connected to large open spaces. The habitat assessment is more in-depth than the analysis required in LUC 20.25H.145 and uses an evaluation method established by the City to assist customers. Based on the project and plans discussed at our meeting, no detailed habitat analysis will be required.

8. Mitigation

Assuming mitigation sequencing has been followed (see LUC 20.25H.215), compensatory mitigation is required at a 1:1 ratio of square footage of critical area, buffer, and/or setback removed to the square footage of planting provided. A mitigation plan is required, but plant species may be selected from the City's planting templates for steep slopes that I have attached. The planting should be done on each lot where impacts occur. If a sufficient scientific argument can be made that there is more benefit provided by consolidating the mitigation planting in one location rather than spread across each lot, the planting may be consolidated. However consolidated planting will need to be demonstrated to actually be better based on the opportunity to improve critical area functions and values. Another option for mitigation could be the placement of the remaining portions of the lots that require a CALUP into Native Growth Protection Easements that would protect the portions of the lots that are not developed.

9. Mitigation Monitoring

The code requires mitigation monitoring and maintenance of mitigation planting for at least 5 years. An installation surety based on the installed cost of the mitigation (posted prior to building permit issuance) will be required that is released after the plants are installed and inspected. A maintenance performance surety (posted prior to final inspection) will be held for the 5 year period. The surety is based on the cost of the labor and materials of monitoring and maintenance for the 5 years. The surety is typically done as an Assignment of Savings on a form which the City provides and is completed with a bank. For larger projects, a bond may be used instead of cash set aside. The surety is released after Land Use inspection of the planting in year 5. A biologist or landscape architect should design the monitoring and maintenance plan to address the required elements in LUC 20.25H.220 and you should contract with a qualified professional to ensure the specified maintenance occurs as needed.

If you need any assistance regarding any of the information captured in this letter to schedule permit intake, please contact me directly at (425)452-4350 or at rpittman@bellevuewa.gov.

Sincerely,

Sent Via Email

Reilly Pittman
Associate Planner

En: Land Use Codes for Geotech
Steep Slope Planting Template

LUC 20.25H.125 Performance standards – Landslide hazards and steep slopes.

In addition to generally applicable performance standards set forth in LUC 20.25H.055 and 20.25H.065, development within a landslide hazard or steep slope critical area or the critical area buffers of such hazards shall incorporate the following additional performance standards in design of the development, as applicable. The requirement for long-term slope stability shall exclude designs that require regular and periodic maintenance to maintain their level of function.

- A. Structures and improvements shall minimize alterations to the natural contour of the slope, and foundations shall be tiered where possible to conform to existing topography;
- B. Structures and improvements shall be located to preserve the most critical portion of the site and its natural landforms and vegetation;
- C. The proposed development shall not result in greater risk or a need for increased buffers on neighboring properties;
- D. The use of retaining walls that allow the maintenance of existing natural slope area is preferred over graded artificial slopes where graded slopes would result in increased disturbance as compared to use of retaining wall;
- E. Development shall be designed to minimize impervious surfaces within the critical area and critical area buffer;
- F. Where change in grade outside the building footprint is necessary, the site retention system should be stepped and regrading should be designed to minimize topographic modification. On slopes in excess of 40 percent, grading for yard area may be disallowed where inconsistent with this criteria;
- G. Building foundation walls shall be utilized as retaining walls rather than rockeries or retaining structures built separately and away from the building wherever feasible. Freestanding retaining devices are only permitted when they cannot be designed as structural elements of the building foundation;
- H. On slopes in excess of 40 percent, use of pole-type construction which conforms to the existing topography is required where feasible. If pole-type construction is not technically feasible, the structure must be tiered to conform to the existing topography and to minimize topographic modification;
- I. On slopes in excess of 40 percent, piled deck support structures are required where technically feasible for parking or garages over fill-based construction types; and
- J. Areas of new permanent disturbance and all areas of temporary disturbance shall be mitigated and/or restored pursuant to a mitigation and restoration plan meeting the requirements of LUC 20.25H.210.

ATTACHMENT 3

MITIGATION / MONITORING / SPECIFICATIONS / MAINTENANCE

STEEP SLOPE BSBL (BUILDING SETBACK LINE) IMPACT MITIGATION PROJECT

The residential development/construction on lot #3 is part of the Parkwood Lane subdivision. There is an existing steep slope area in the southwest corner of the property. There is a required 75 foot steep slope BSBL setback per City of Bellevue Land Use Code. As part of this development, lot #3 will require the use of a portion of the steep slope BSBL area for constructing a new home. The mitigation for developing within the BSBL setback will be to provide enhancement and restoration plantings of native vegetation on site.

Impacts and Mitigation on the steep slope BSBL area are as follows:

Impacts:
Steep Slope BSBL Permanent Impact = 2,801 SF

Mitigation:
Steep Slope BSBL Temporary Impact = 1,870 SF (To be Restored)
Undisturbed Steep Slope BSBL Area = 932 SF (To be Enhanced)
Total Steep Slope BSBL Area Mitigation = 2,802 SF

Proposed mitigation at a 1:1 ratio for these impacts is accomplished by enhancement of a portion of the undisturbed steep slope BSBL in the northwest corner of the site and restoration of the temporarily impacted steep slope BSBL area which will be temporarily cleared during construction of the residence. In this upper portion of steep slope BSBL the existing native plants will be interplanted with the mitigation plantings. This upper area to be enhanced has limited cover of English Ivy. The Ivy will be removed from all areas where new native trees, shrubs, groundcover are to be planted.

Currently found in the BSBL are the following native plants. Western Red Cedar, Big Leaf Maple, Vine Maple and Douglas Fir trees. Shrubs include Salmonberry, Oregon Grape, and Ocean Spray. Ground covers include Low Oregon Grape, and Sword Fern. The majority plant cover is Big Leaf Maple, Western Red Cedar, and Sword Fern.

MITIGATION PLAN GOALS

- Provide mitigation through the restoration of the steep slope BSBL area temporarily impacted for development. Plant the area with native tree, shrub, and groundcover species.
- Provide mitigation through enhancement planting in northwest section of the undisturbed steep slope BSBL. Interplant existing native plants with native tree, shrub, and groundcover species.
- Remove invasive & non-native species in select areas where new native tree, shrub, and groundcover plants are installed.

PERFORMANCE STANDARDS

- Restore 1,870 square feet of steep slope BSBL area with native plantings in areas that are temporarily impacted by development.
- Provide enhancement of a native growth within an area of 932 square feet.
- Provide 80 percent survival of all installed trees and shrubs by the end of the 5 years of monitoring in the enhancement and restoration areas.
- Maintain less than 10 percent non-native, invasive plant cover in planted areas by the end of 5 years of monitoring.

Project Timing

All work required in the mitigation plan shall be completed prior to final inspection or issuance of a temporary certificate of occupancy or certificate of occupancy, as applicable, for the project. The mitigation plan shall be implemented as soon as possible after the proposed on site construction of the retaining wall and the restoration of the grades behind it. Installation of plants is preferably between October 1st and March 15th, except not during freezing weather. Temporary erosion control will be installed by General Contractor at the top of proposed wall and on the cleared slope BSBL area.

Pre-Construction Meeting

A pre-construction meeting will be held on-site with appropriate parties, including the landscape architect, landscape contractor, and project Owner. During this meeting, the site conditions and Mitigation Plan will be reviewed so that all participants understand the goals, specifications, planting schedule and extent of preparation and planting. If necessary, plant substitutions will be approved at this time.

Construction Observation

Landscape Architect will provide construction observation on the project. Contractor is obligated to perform work per Plans, Details, Notes and Specifications.

Compliance Monitoring

The landscape contractor will notify the project landscape architect and project Owner when planting has been completed. At that time, the landscape architect will complete a review of the Plan and completed mitigation areas to assess compliance. A report of compliance, including any deficiencies and resolutions, will be prepared for the City.

MONITORING PROGRAM

The Landscape Architect will monitor the mitigation area following installation, for 5 years. Observations will be at the end of the growing season (9/1 to 9/30) for each year.

At the end of the growing season during the month of September, monitoring will be as follows:

- Count all installed trees, shrubs, and groundcovers in the mitigation area for mortality/survival.
- Identify significant invasive weeds and require maintenance or removal in order to promote the growth and survival of all installed plants.
- Photograph the mitigation areas from at least three locations. The location and direction of each photograph shall be consistent among monitoring periods, be representative of restored and enhanced areas, and be represented on a map (i.e., properly located and labeled).

Submit the results of monitoring annually to the City of Bellevue within 30 days following field monitoring.

CONTINGENCY PLAN

Should the desired mitigation goals and performance standards not be achieved, a determination will be made by a City representative, the Landscape Architect, and the project Owner to implement a contingency plan. The Landscape Architect will evaluate reasons for repeated failure and make recommendations to the City if the Performance Standards are not achieved.

Potential contingency is primarily two-fold; (1) to replace plants that have not survived at acceptable performance standards during the 5-year monitoring period, and (2) to determine and rectify the cause of significant mortality (50 percent or greater) of mitigation plantings.

SPECIFICATIONS

Site Preparation

A pre-construction meeting will be held with participating contractors and Landscape Architect before work commences in the mitigation areas. The approved Plan will be reviewed so that all participants understand the goals, specifications, and the extent of clearing, grubbing, and planting. Because this Plan is a mitigation project involving removing non-native species, and interplanting with saved vegetation, detailed construction oversight is necessary. Existing vegetation to remain and save will be flagged prior to clearing and grubbing.

As shown on Landscape Sheets, part of the enhancement area has some invasive plant cover that will be removed within an area of saved native vegetation.

The Landscape Contractor will be responsible for avoiding disturbance to existing vegetation to remain. In areas of existing vegetation to remain, landscape contractor will remove English Ivy and other specified invasive species by hand or light machinery, with minimal disturbance to the saved vegetation.

- Flag Vegetation To Remain

Flag all existing native trees, shrubs and groundcovers within the restoration area.

- Clear And Grub

Landscape Contractor will clear and grub targeted invasive plant species within the specified enhancement area. Contractor will remove English Ivy and other specified invasive species by hand, with minimal disturbance to the existing vegetation. Cleared and grubbed vegetation will be exported from the site. Particular care must be provided to remove tops and the roots of invasive plants to a minimum depth of 10 inches.

- Erosion Control Measures

The landscape contractor is responsible for providing temporary erosion control measures in areas of clearing and grubbing as specified in Soil Preparation.

Soil Preparation

Landscape Contractor shall completely review and understand the project work including underground utilities prior to construction.

The planting beds will be weed and debris free prior to soil preparation. In restoration planting areas and in a 30' square area at each plant located in the enhancement area, add 3" of topsoil consisting of 2/3 cedar grove compost and 1/3 coarse sand or eq. as measured by volume. Till/mix into top 6" of existing soil, rake smooth and compact to 80%, also conform to grading plan. Avoid disturbing major roots of existing trees. Notify owner if existing soil conditions will prove detrimental to plant health, even after soil prep, such as excessive clay soil, hardpan soil, poor drainage, or excessive gravel.

After soil preparation provide jute matting, Geocoir 900, Beltron Industries, in cleared areas with slopes greater than 2:1. Stake mesh in place with biodegradable stakes at manufacturer's recommended spacing. Approximately 750 square feet of erosion mat necessary, field verify.

Plant Standards

All plants and planting activities shall conform to normal landscape industry standards. Only sound, healthy, vigorous plants free of defects, disease, and infestations shall be used. Plant materials will be native to the Pacific Northwest, preferably from the Puget Sound Region and locally grown, containerized unless otherwise specified. Plant materials will be healthy, in vigorous growing condition, free from disease infestation, and correct size, name, and variety. Ball and burlap (B & B) trees are acceptable. The landscape architect reserves the right to require replacement or substitution of any unsuitable plants.

All plants shall conform to American Standard for Nursery Stock, ANLA and shall be good quality or better plants per industry standards.

Trees will have uniform branching with the central leader intact and undamaged.

Container stock will be fully rooted but not root-bound. Ball and burlap stock will have been root-pruned. Plant material with damaged root zones or broken root balls will not be accepted.

Plant Installation

Handle all plants with care to ensure protection from injury. Store plants in a manner so as to not allow the roots to dry out. Keep plants moist and shaded until the actual time of installation. Before and after planting saturate the soil in the planting area to prevent capillary stress.

Plant trees and shrubs per detail #1. Gently loosen roots of container stock that is rootbound prior to planting. Fertilize with Best-Paks fertilizer, avail. Horizon 425.828.4554. One packet per 1 gallon, 2 per 2 gal, 3 per 5 gal, 14 per tree. Evenly space packs around rootball 6-8" from soil surface. Backfill with native soil as amended above. Mulch the beds and preparation areas around individual plants in enhancement area with 4" of fine bark or arborist's chips. Mulch to be free of garbage and weeds and may not contain excessive resin, tannin, or other material detrimental to plant growth. Keep mulch 2" away from stem of plant.

Contractor is responsible for watering until final acceptance of their work. Provide one-year warranty starting from date of final approval.

Irrigation

Owner will be responsible for watering the new plantings for the first two full growing seasons, either by an irrigation system, temporary irrigation system or by hand watering.

The irrigation will provide 1/2" of precipitation 2 times per week between June 1st and July 15th and 1" of precipitation 2 times per week between July 15th and October 1st. Provide irrigation for the first two full growing seasons. Irrigation schedule will take into account natural precipitation so as to not over water the project area.

MAINTENANCE

Maintenance will be conducted on a routine, yearly basis for 5 years following installation. A qualified professional will determine the need for project maintenance. The Monitoring Program's schedule will assure maintenance and success criteria are accomplished prior to or at the end of the mitigation period. Contingency or remedial measures will be implemented on an as-needed basis at the direction of the Landscape Architect. Maintenance of the enhancement and restoration areas includes the following:

- Provide for watering of plants as covered in "Irrigation" section above.
- Remove weeds from new planting areas for 5 years after installation. Weeds may include non-native vegetation such as Himalayan blackberry (*Rubus discolor*), reed canarygrass (*Phalaris arundinacea*), evergreen blackberry (*Rubus laciniatus*), Scot's broom (*Cytisus scoparius*), English ivy (*Hedera helix*), morning glory (*Convolvulus arvensis*), Japanese knotweed (*Polygonum cuspidatum*) etc. Remove weeds four times per year, twice in spring, once in the summer and once in fall.
- Replace tree, shrubs, and groundcovers that die within 5 years after installation on a yearly basis in the enhancement and restoration areas.

Tree stakes will be removed at the end of the first year maintenance period.

SITE EVALUATION WORKSHEET

This worksheet is designed to record site information. Using your existing site plan as a guide, record site conditions according to your observations and keep an account of all seasonal and daily changes that you have noticed.

STEP 1: Complete Table 1 below by checking the boxes that best describe the conditions on your site.

TABLE 1. SITE ASSESSMENT TABLE			
HYDROLOGY	<input checked="" type="checkbox"/> Dry	<input type="checkbox"/> Wet	
LIGHT	<input type="checkbox"/> Sun	<input checked="" type="checkbox"/> Shade	
TOPOGRAPHY	<input type="checkbox"/> Flat	<input checked="" type="checkbox"/> Slope	<input type="checkbox"/> Steep Slope
ASPECT	<input type="checkbox"/> South-facing	<input type="checkbox"/> North-facing	<input checked="" type="checkbox"/> East-facing
EXISTING VEGETATION	<input checked="" type="checkbox"/> None (bare ground)	<input type="checkbox"/> Lawn	<input type="checkbox"/> Ornamental/ formal landscape
	<input checked="" type="checkbox"/> Invasive weeds*	<input checked="" type="checkbox"/> Existing native plants	

* Refer to Chapter 2: Existing Vegetation for more information

STEP 2: Fill out the project information below.

Using the check boxes above, circle your Site Conditions and Critical Area. If you are restoring more than one site, use a separate worksheet for each site. Larger sites may need more than one assessment. You may select more than one condition and/or critical area type below.

Then, combine your answer in Critical Area and Site Conditions - this is your Overall Site Assessment. Now you know which planting template best fits your site! Refer to the Table of Templates on the reverse side of this worksheet.

Project Contact: Troy Schwell, TD Home Partners Phone number: 425-818-8829

Project Location: 3665 - 163rd Ave SE Bellevue

Permit Number (if any): Date: 1-26-12

Critical Area Type (circle): Geological Hazard (Steep Slope/ Shoreline / Wetland and Wetland Buffer/ Stream Buffer)

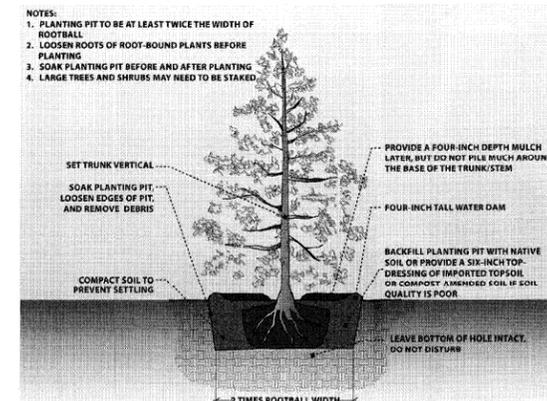
Site Conditions (circle all that apply): Sun/ Shade/ Invasives on a wet site/ Invasives on a dry site

Overall Site Assessment: Steep Slope + Shade with some Invasives on dry site
(Critical Area Type) (Site Conditions)

SE-1

SITE EVALUATION WORKSHEET IS SPECIFIC TO THE PROPOSED MITIGATION AREA. THE INVASIVE PLANTS IN THE PROPOSED PLANTING AREA ARE LIMITED TO THE NORTHWEST CORNER OF THE SITE. ALSO THE AREA NOTED ON THE PLAN AS TEMPORARY DISTURBANCE AREA, WILL BE BARE GROUND AT THE TIME OF IMPLEMENTATION OF THIS MITIGATION PLAN.

TREE AND SHRUB PLANTING DETAIL



TREE AND SHRUB PLANTING SEQUENCE

- Evaluate the soil conditions. If the soil is too compacted to easily dig, consider options for decompacting and amending the soil with compost. Amend the entire restoration area when possible.
- Lay out plants or use flags to mark the location of each plant.
- Dig a pit for each plant that is twice the size of the rootball or plant container.
- Remove large rocks and other debris from the pit.
- Soak the pit with water by filling it at least half-way. Allow the water to drain before installing plant. Note that some pits may not fill if the soil is very sandy.
- "Rough up" the roots of the plants, pruning or straightening circling roots. Roots that circle the bottom and sides of the rootball can later girdle the tree as the trunk attempts to grow outward.
- Install the plant in the pit, backfilling as necessary such that soil surface matches the surrounding ground level. Make sure stem of the plant is at the same ground level that it was in the nursery pot.
- Form a basin to hold water around the plant using remaining soil.
- Mulch each plant with 4 inches of coarse wood chip mulch (preferred) or raked leaves. Do not bury the stem in mulch - mulch should be kept a few inches away from the stem.
- Water the plant again, filling up the small basin formed in step 8.



GHA Landscape Architects
1417 NE 80th St.
SEATTLE, WA 98115
TEL 206.522.2334 FAX 206.526.5667

DRAWING TITLE
MITIGATION NOTES AND DETAILS
PARKWOOD LANE LOT #3 - TD HOME PARTNERS, LLC
3665 - 163rd Ave SE, BELLEVUE, WA

DATE 1-31-12
DRAWN BY N R
CHECKED BY
REVISIONS
3-15-12

Received
MAR 15 2012
Permit Processing
L1.1